(19) World Intellectual Property Organization International Bureau



1 DO 12 A MORTO IN ROLLIN BOLLIN DER 12 AU BOLLIN GODO TOLLE BOLL DER LOCAL BOLLIN BOLLIN BOLLIN BOLLIN BOLLIN

(43) International Publication Date 25 September 2003 (25.09.2003)

PCT

(10) International Publication Number WO 03/078387 A1

- (51) International Patent Classification?: C07C 291/04, A61K 47/02, 47/12
- (21) International Application Number: PCT/GB03/01110
- (22) International Filing Date: 17 March 2003 (17.03.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0206255.2 60/412,776 15 March 2002 (15.03.2002) GB

- 60/412,776 24 September 2002 (24.09.2002) US

 (71) Applicant (for all designated States except US): BTG IN-
- (71) Applicant (for all designated States except US): BTG INTERNATIONAL LIMITED [GB/GB]; 10 Fleet Place, Limeburner Lane, London EC4M 7SB (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DENNY, William, Alexander [NZ/NZ]; 165 Gossamer Drive, Pakuranga, Auckland (NZ). PATTERSON, Laurence, Hylton [GB/GB]; 2 Cricks Retreat, Great Glen, Leicester LE8 9FF (GB). HALBERT, Gavin, William [GB/GB]; 88 Munro Road, Glasgow G13 1SG (GB). FORD, Steven, John [GB/GB]; 6 Highfield Drive, Glasgow G12 0HF (GB).

- (74) Agent: ENGLAND, Christopher, David; BTG International Ltd, 10 Fleet Place, Limeburner Lane, London BC4M 7SB (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FORMULATIONS OF ANTHRAQUINONE DERIVATIVES

(57) Abstract: A compound of formula (I): in which A is a C alkylene group with a chain length between NH and N(O)R'R" of at least 2 carbon atoms and R' and R" are each separately selected from C_{1-4} alkyl groups and C_{2-4} hydroxyalkyl and C_{2-4} dihydroxyalkyl groups, or R' and R" together are a C_{2-6} alkylene group, is formulated so that upon dissolution in aqueous solution the pH of the solution is in the range of 5 to 9. The compound may be in the form of salt with a physiologically acceptable acid having a pK_a in the range of -3.0 (minus 3.0) to 9.0.